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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,857	11/24/2003	Pravas Pradhan	112055-0073U	5180

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CESARI AND MCKENNA, LLP
88 BLACK FALCON AVENUE
BOSTON, MA 02210

EXAMINER	
LAM, TUAN THIEU	
ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/720,857	PRADHAN ET AL.	
	Examiner	Art Unit	
	Tuan T. Lam	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/11/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 9-16 and 18* is/are rejected.

7)☒ Claim(s) *8 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/11/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 4-7 and 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 4, 6 and 15, the recitation of "the first and the second current receiving circuits" lacks proper antecedent basis.

Claims 5, 7 and 16-17 are indefinite because of the technical deficiencies of claims 4 and 15.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 6-7, 9-12, 15-16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Brunt et al. (USP 5,592,510).

Figure 3 shows a curent mode transfer logic transmission line driver system comprising a transmission line (370, 375), defining at least a first and a second signal carrying conductor, the transmission line defining a characteristic impedance (the transmission line 370 and 375 has its own characteristic impedance), means for selectively driving unequal current through the first

and second signal carrying conductors respectively (figure 8 shows transmitter circuit 200 selectively transfer a current of 0.5ma transfer on the conductor ~~lien~~ line 370, and 7.5ma transfers on the conductor 375), a terminating resistor (240, 242 of figure 3), means for receiving current (conductor wires connected to the input of the amplifier 210 of figure 3), means for sensing (210) as called for in claims 1 and 10.

Regarding claims 2 and 11-12, the first and second current sources of figure 8 are selectably connected to the first and second conductor lines by the transistors 331 of figure 4.

Regarding claims 6-7 and 15-16, the receiver circuit 210 (shown in figure 3) has a differential amplifier configuration. Differential amplifier is capable of comparing the received input currents. Therefore, the limitations of claims 6-7 are met.

Regarding claims 9 and 18, the first and second transmission lines 370 and 375 has its own impedance characteristic with respect to the return path (ground). The return path connected to ground via transistor 331 (shown in figure 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-7, 9-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Talbot et al. (USP 6,448,815) in view of Mitsuo (JP 07-307661).

Figure 1 shows a curent mode transfer logic transmission line driver system comprising a

transmission line (22), defining at least a first and a second signal carrying conductor, the transmission line defining a characteristic impedance (the transmission line has its own characteristic impedance), means for selectively driving unequal current through the first and second signal carrying conductors respectively (30A-30D; R1 and R2 have their resistance independently controlled, shown in figure 2, with a different resistance from one another, the current generated by the respective resistor will be different from one another (Ohm's law, I = V/R)), means for receiving current (conductor wires connected to the input of the amplifier 210 of figure 3), a terminating resistor (R3), an a receiver (36).

The Talbot et al. reference does not show the details of the receiver (36) comprising a means for receiving currents and means for sensing the received currents as called for in claims 1 and 10. Figure 11 of Mitsuo shows a high speed receiver (5) having a little of power consumption, comprising first and second current receiving circuits (P51, P52; P53, P54) and means for sensing (N51, N52 and IV51). Therefore, it would have been obvious to a person skilled in the art at the time of the invention was made to use Mitsuo's receiver circuit for receiving the transmitted currents for the purpose of increasing the speed and reduce power consumption.

Regarding claims 2 and 11, the combination of Talbot et al. and Mitsuo shows the first and second current sources (adjustable R1 and R2 of Talbot et al.) selectable coupled the transmission line by the transistors (30A to 30D).

Regarding claims 3 and 12, the combination of Talbot et al. and Mitsuo shows first and second receiving current circuits (P51, P52; P53, P54) coupled between the transmission line and return path conductor (ground).

Regarding claims 4 and 13, the combination of Talbot et al. and Mitsuo shows the first and second diodes P51 and P54.

Regarding claims 5 and 14, the combination of Talbot et al. and Mitsuo shows means for biasing as transistors P52 and P53 such the distal ends of the transmission line has lower impedance than the characteristic impedance.

Regarding claims 6 and 15, the combination of Talbot et al. and Mitsuo shows means for comparing (N51, N52) providing a difference current at the node ND53.

Regarding claims 7 and 16, the current mirror N521 and N52 and the inverter IV51 amplifies the difference current.

Regarding claims 9 and 18, the transmission line has its own impedance characteristic with respect to the return path (ground). The return path connected to ground via the selectable transistors.

Allowable Subject Matter

6. Claims 8 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In this instant, applicant's cited prior art has been carefully considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan T. Lam
Primary Examiner
Art Unit 2816

12/10/2004